

AMENDMENTS TO THE CLAIMS:

Please amend claims 8 and 12 and add new claims 20 and 21 as indicated below. This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1.-7. (Canceled)

8. (Currently Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming an insulating film containing silicon and nitrogen on a semiconductor substrate;

forming a film which must be processed and which contains silicon on the insulating film;

processing the film which must be processed to cause a portion of the insulating film to be exposed to the outside; and

~~generating an oxidizing gas containing one of ozone and oxygen radicals, the oxygen radicals being generated by converting an oxygen-containing gas into plasma state or by reacting a first gas containing oxygen and a second gas containing hydrogen; and~~

lowering a surface of the semiconductor substrate under a part of the insulating film relative to a surface of the semiconductor substrate under the film which is processed to cause the portion of the insulating film to be exposed to the outside by applying a thermal oxidation process to a semiconductor structure obtained owing to the steps of an oxidation process ~~using~~

the oxidizing gas containing one of ozone and oxygen radicals, the thermal oxidation process using an oxidizing gas containing one of ozone and oxygen radicals, the oxygen radicals being generated by remote plasma oxidizing method or by reacting a first gas containing oxygen and a second gas containing hydrogen.

9. (Original) A method of manufacturing a semiconductor device according to claim 8, wherein the insulating film is one of a silicon oxide film containing nitrogen and a silicon nitride film.

10. (Original) A method of manufacturing a semiconductor device according to claim 8, wherein the insulating film is a gate insulating film, and the film which must be processed is processed to form a gate electrode.

11. (Original) A method of manufacturing a semiconductor device according to claim 8, wherein the insulating film is formed in such a manner that the concentration of nitrogen at an interface of the insulating film with the semiconductor substrate realized before the oxidation process is performed is $5 \times 10^{13} \text{ cm}^{-2}$ or higher.

12. (Currently Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming an insulating film containing silicon and nitrogen on a semiconductor substrate;

forming a film which must be processed and which contains silicon on the insulating film;

processing the film which must be processed such that a portion of the insulating film is exposed to the outside;

~~generating an oxidizing gas containing one of ozone and oxygen radicals, the oxygen radicals being generated by converting an oxygen-containing gas into plasma state or by reacting a first gas containing oxygen and a second gas containing hydrogen;~~

lowering a surface of the semiconductor substrate under a part of the insulating film than a surface of the semiconductor substrate under the film which is processed to cause the portion of the insulating film to be exposed to the outside by applying a thermal oxidation process to a semiconductor structure obtained in the steps of an oxidation process ~~by using the oxidizing gas containing one of ozone and oxygen radicals, the thermal oxidation process using an oxidizing gas containing one of ozone and oxygen radicals, the oxygen radicals being generated by remote plasma oxidizing method or by reacting a first gas containing oxygen and a second gas containing hydrogen;~~ and

subjecting the semiconductor structure subjected to the oxidizing process to at least one of a nitriding process and an additional oxidation process.

13. (Original) A method of manufacturing a semiconductor device according to claim 12, wherein the insulating film is one of a silicon oxide film containing nitrogen and silicon nitride film.

14. (Original) A method of manufacturing a semiconductor device according to claim 12, wherein the insulating film is a gate insulating film, and the film which must be processed is processed to form a gate electrode.

15. (Original) A method of manufacturing a semiconductor device according to claim 12, wherein the insulating film is formed in such a manner that the concentration of nitrogen at an interface of the insulating film with the semiconductor substrate realized before the oxidation process is performed is not less than $5 \times 10^{13} \text{ cm}^{-2}$.

16. (Withdrawn) A method of manufacturing a semiconductor device comprising the steps of:

forming an insulating film containing a silicon nitride film on a film which must be processed and which includes a silicon film;

processing the insulating film by using lithography and etching to form a pattern composed of the insulating film;

subjecting the pattern in an atmosphere containing one of oxygen radicals and ozone to convert the exposed surface of the silicon nitride film into a silicon oxide film;

fining the pattern by removing the silicon oxide film; and

processing the film which must be processed by transferring the fined pattern to the film which must be processed.

17. (Withdrawn) A method of manufacturing a semiconductor device according to claim 16, wherein

the insulating film is etched in such a manner that the surface of the film which must be processed is not exposed to the outside to convert the exposed surface of the silicon nitride film into a silicon oxide film, and then silicon oxide film is removed to form the pattern,

a portion of the insulating film constituting the first pattern which has a small thickness is removed to form the fine pattern, and

the fine pattern is used as a mask to etch the film which must be etched to transfer the pattern to the film which must be processed.

18. (Withdrawn) A method of manufacturing a semiconductor device according to claim 16, wherein the insulating film further contains a silicon oxide film, and the silicon oxide film is formed below the silicon nitride film.

19. (Withdrawn) A method of manufacturing a semiconductor device according to claim 16, wherein the film which must be processed is formed into a gate electrode.

20. (New) A method of manufacturing a semiconductor device according to claim 8, wherein the thermal oxidation process using the oxygen radicals is performed at not lower than 900°C.

21. (New) A method of manufacturing a semiconductor device according to claim 12, wherein the thermal oxidation process using the oxygen radicals is performed at not lower than 900°C.